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WindTalker™

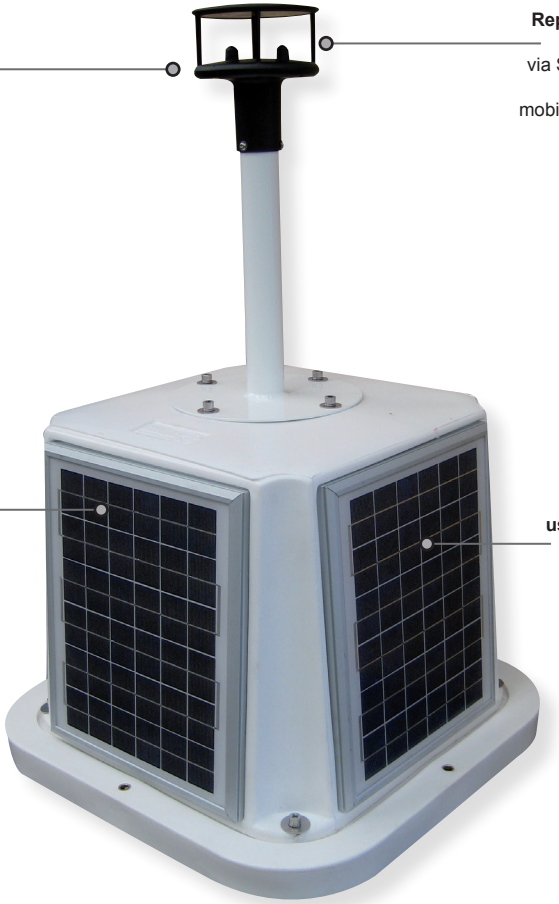
Solar-Powered Ultrasonic Anemometer with GSM
Installation & Service Manual

Version 1.1

Sealite
www.sealite.com

WindTalker™

Solar-Powered Ultrasonic Anemometer with GSM


Ultrasonic anemometer
Reports wind speed and direction via SMS text message to designated mobile phones and PC's
4 x 10watt multicrystalline solar modules
Ensures maximum light collection to charge the battery
Internal user-replaceable 55Ah battery

All components of the GSM Receiver / Transmitter are enclosed within the power supply body.

Table of Contents

WindTalker™ ..... Page 4

Getting Started: Setting up your GSM Monitoring Module ..... Page 6

Step 1: Purchase, Record & Insert SIM Card into WindTalker™ & Initial Installation Position & Location ..... Page 6

Step 2: Program Remote Access List, Web Reporting & Essential Commands ..... Page 8

Step 3: Accessing the Sealite Web Reports ..... Page 9

Step 4: Program Desired Report List & Alarms ..... Page 15

Accessing your WindTalker™ Data ..... Page 18

Sending Commands ..... Page 20

The "add" Command ..... Page 20

The "list" Command ..... Page 22

The "delete" Command ..... Page 23

The "get" Command ..... Page 23

The "set" Command ..... Page 24

WindTalker™ Installation Location ..... Page 24

Trouble Shooting ..... Page 27

Trouble Shooting Table ..... Page 28

Phone Module Indicator / Status LEDs ..... Page 29

Sealite LED Light Warranty ..... Page 30

Version No.	Description	Date	Approved
1.0	Manual Launch	November 2009	K. Paton
1.1	Logo update	May 2010	K. Paton

WindTalker™

Sealite's WindTalker™ is a solar-powered ultrasonic anemometer which enables users to remotely access real time and historical data about the wind speed and direction and location of the installation via cell phone (SMS message) or PC web portal interface.

The four 10Watt solar panels recharge the internally housed battery to power the ultrasonic anemometer, allowing the unit to be completely self-contained and operate independently from other power sources

Designated users simply send an SMS text message to the WindTalker™ and receive an automatic reply from the unit indicating accurate wind speed and direction.

Various alarm conditions such as High Wind Speed and Low Battery Voltage, and daily status reports can also be activated as required.

Sealite's WindTalker™ may also be set up to send daily reports to a secure user login portal area of the Sealite website. This provides both current day and historical data of both wind conditions along with the unit's battery voltage.

The anemometer is corrosion free and can be utilised in all weather conditions, making it ideal for land based and marine applications.

Key Features:

- Access of current WindTalker™ status at any time by sending an SMS to the WindTalker™ from any designated cell phone number. The WindTalker™ status is sent by return SMS.
- Regular reporting of lantern status to designated cell phone numbers and/or web server.
- Reports any pre-programmed alarm condition to designated cell phone numbers.

Available Data from Remote Lantern:

- Battery voltage
- Solar module charging current
- Current draw
- Wind speed and direction (including averages and gusts)
- Internal PCB temperature: Normal/High

SPECIFICATIONS •

Anemometer Characteristics	
Wind Speed	Range 0-116 knots
Wind Direction Range	0-359° (no dead band)
Operating Temperature	-35°C to +70°C
Moisture Protection	IP65
External Construction	Polycarbonate
NMEA O/P	Yes
Charging	Internal Regulator
Electrical Characteristics	
Current Draw (mA)	50mA at 12v (approx)
Circuit Protection	Integrated
Nominal Voltage (v)	12
Autonomy (days)	36
Temperature Range	-40 to 80ºC
Solar Characteristics	
Solar Module Type	Multicrystalline
Output (watts)	40 (4 x 10watt)
Solar Module Efficiency (%)	14
Charging Regulation	Microprocessor controlled
Power Supply	
Battery Type	SLA (Sealed Lead Acid)
Battery Capacity (Ah)	55
Nominal Voltage (v)	12
Battery Service Life	Average 5 years
Physical Characteristics	
Body Material	Rotationally-moulded UV-stabilised virgin polyethylene
Mounting	4 x 11mm mounting holes
Height (mm/inches)	928 / $36^{1}/_{2}$
Width (mm/inches)	560 / 22
Mass (kg/lbs)	24 / $52^{7}/_{8}$
Product Life Expectancy	Up to 12 years
Certifications	
CE	EN61000-6-2:2001. EN61000-6-3:2001
Quality Assurance	ISO9001:2000
Intellectual Property	
Trademarks	SEALITE® is a registered trademark of Sealite Pty Ltd
Warranty *	1 year

• Specifications subject to change or variation without notice * Subject to standard terms and conditions

Getting Started:
Setting up your GSM Monitoring Module

Setup of the Sealite GSM Monitoring System is a simple 4-step process, outlined below;

STEP 1:
Purchase, Record and Insert SIM Card into Lantern

- **Similar to a cell-phone, a valid SIM card needs to be acquired and inserted into the GSM module prior to use (see "Purchasing a SIM Card" below). Refer to *Initial Setup and Installing the Sim Card* section of this manual for a step-by-step guide to installing your SIM card.**

STEP 2:
Program Remote Access List, Web Reporting and Essential Commands

- **The remote access list is a list of cell phone numbers from which the Sealite WindTalker™ will accept configuration commands and report requests. Web reporting and essential commands may also be setup at this step.**

STEP 3:
Accessing the Sealite Web Reports

- **By sending a report to the Web gateway and providing access via the Sealite website, historical data and graphs may be viewed on each WindTalker™.**

STEP 4:
Program Desired Report List and Alarms

- **The alarm reporting list is the list of cell phone numbers which the WindTalker™ may send any SMS alarm report to.**

GSM Monitoring System Ready for Operation

STEP 1: Purchase, Record and Insert SIM Card into WindTalker™, & Initial Installation Position & Location

Purchasing a SIM Card and Recording Details

One SIM card is required per WindTalker™ and can be purchased from your local telecommunications dealer. You may decide to purchase a pre-paid SIM card, or set the SIM card up on a plan (this is similar to purchasing a new cell phone).

Each WindTalker™ will have an individual cell phone number. This number is unique and should be recorded for reference purposes. To assist in recognition it is advisable that a description be included as well as the number (For example, WindTalker #12, +61421218561). A similar recording in the user's cell phone will assist in identifying WindTalker™ installations to which SMS commands are sent (the same process as adding a new contact in your cell phone address book).

Initial Setup and Installing the Sim Card

Figure 1. Inside GSM housing

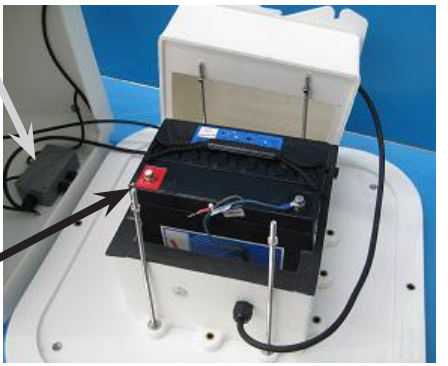


Figure 2. Inside battery housing

- Remove the 4 x M8 socket head cap screws from the four corners of the solar panel housing
- Lift off the solar panel housing and rest it beside the battery housing
- Remove the cover of the GSM housing on top of the clamping plate by unscrewing the 4 x Phillips head screws. *This is where the SIM card is to be inserted*
- Fit your SIM card into the holder on the phone board. (Fig. 1)
- Unscrew the 4 x hand knobs to remove the upper battery lid and plate
- Connect the positive wire to the positive battery terminal. Secure the wire. (Fig. 2) *Status LED's will come on and start flashing if the battery has been connected properly*
- Replace and secure the upper battery lid and the clamping plate using the 4 x hand knobs
- Replace and secure the cover of the GSM housing using the 4 x Phillips head screws.
- Re-position the solar panel housing and secure into position using the 4 x socket head cap screws.

NEVER insert or remove the SIM card while the unit is connected to power. You will damage the SIM card.

Initial Position and Location of the Unit

To receive an accurate reading please follow the below steps.

- Make sure the unit is not protected form the wind by buildings or trees.
- ALWAYS make sure the arrow on the anemometer is facing North.

STEP 2: Program Remote Access List, Web Reporting & Essential Commands

The remote access list is a list of cell phone numbers from which the Sealite WindTalker™ will accept configuration commands and report requests. Web reporting and essential commands may also be setup at this step.

Follow the process below to program the Remote Access List, Web Reporting and Essential Commands;

Select a cell phone from which the WindTalker™ module will be activated.

- The WindTalker™ will accept the first cell phone contact for instructions.
- The first instruction must be correct as the WindTalker™ will then only respond to the access cell phone number(s) given.

*Two numbers should be provided to the WindTalker™ to ensure there is a backup access**.*

Add cell phone numbers to the permitted access list by sending the SMS:-

add access +(country code)(phone number)

More than 1 cell phone number can be included in the SMS. To do this separate each number with a 'space' character.

- "+" and the country code (eg. 61 for Australia, or 44 for U.K) are required to establish the country prefix in which the GSM unit is to operate in. Additional cell phone numbers can then be added by sending commands from those numbers given access.
- For example, to add an Australian cell phone number to the access list the SMS command would be: **add access +61400987654**

All additional telephone numbers added to the access list must continue to be in international format.

- Once the number(s) has been added to the access list the Sealite WindTalker™ will accept commands from these numbers and acknowledge confirmation via reply SMS.

Add alarm web to the permitted access list by sending the SMS:-

add alarm web

- This command initiates the daily web reporting, which sends a daily diagnostic update to be viewed from your secure login at the Sealite Website.

**In the event that the access cell phone number(s) is lost or no longer in service, Sealite can reset the WindTalker™ from the factory if required.

From an authorized Access Cell Phone send a new SMS with text message 'report' to the designated SIM card number of your WindTalker™.

Within a few minutes* expect a reply in similar format as the following:

Wind Report
Current: 1.8 kts, 69° E
Avg(2min): 1.9 kts, 132° E
Avg(10min): 1.1 kts, 101° E
Gust(2min): 4.3kts, 120° SE
Gust(10min): 4.4 kts, 226° SW

Note: The actual layout of the message is dependent on your cell phone screen.

**The time taken to reply will depend on factors including network coverage and network congestion.*

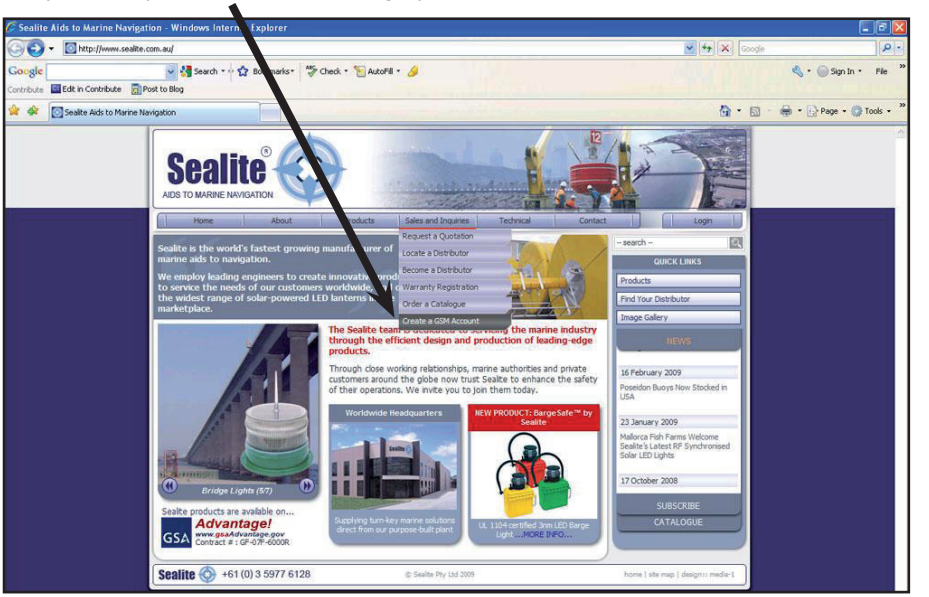
STEP 3: Accessing the Sealite Web Reports

After reporting to the Sealite Web gateway has been set up, access to historical data and graphs about individual WindTalker™ installations is available via the Sealite website.

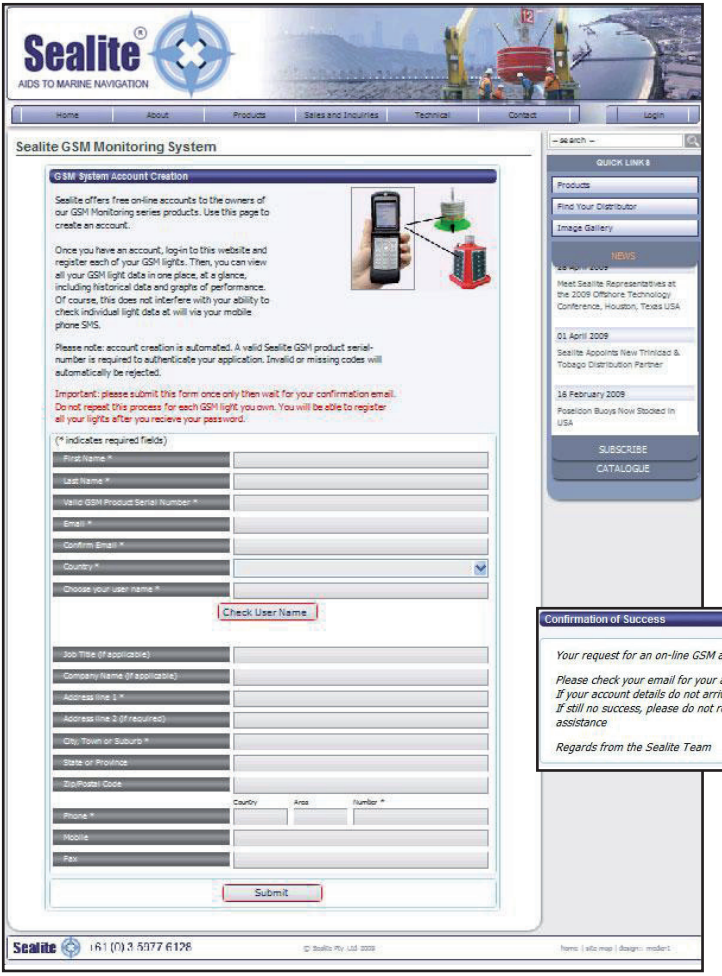
Follow the steps below to access your WindTalker™ operational data;

1. Go to **www.sealite.com** on the internet, select the Sales and Inquiries tab and click on **"Create a GSM Account"**.

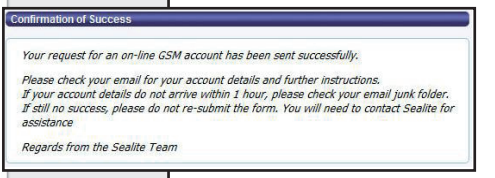
Note: If you already have a current GSM Login you can add the WindTalker™ to this service.



2. Complete the details on the “GSM System Account Creation” screen including your contact details and valid Sealite GSM Product Serial Number, and click “Submit”


Sealite
AIDS TO MARINE NAVIGATION
Home
About
Products
Sales and Inquiries
Technical
Contact
Login
Sealite GSM Monitoring System
GSM System Account Creation
Sealite offers free on-line accounts to the owners of our GSM Monitoring series products. Use this page to create an account.
Once you have an account, log-in to this website and register each of your GSM lights. Then, you can view all your GSM light data in one place, at a glance, including historical data and graphs of performance. Of course, this does not interfere with your ability to check individual light data at will via your mobile phone SMS.
Please note: account creation is automated. A valid Sealite GSM product serial-number is required to authenticate your application. Invalid or missing codes will automatically be rejected.
Important: please submit this form once only then wait for your confirmation email. Do not repeat this process for each GSM light you own. You will be able to register all your lights after you recieve your password.
(* indicates required fields)
First Name *
Last Name *
Valid GSM Product Serial Number *
Email *
Confirm Email *
Country *
Choose your user name *
Check User Name
Job Title (if applicable)
Company Name (if applicable)
Address line 1 *
Address line 2 (if required)
City, Town or Suburb *
State or Province
Zip/Postal Code
Country
Area
Number *
Phone *
Mobile
Fax
Submit
QUICK LINKS
Products
Find Your Distributor
Image Gallery
NEWS
Meet Sealite Representatives at the 2009 Offshore Technology Conference, Houston, Texas USA
01 April 2009
Sealite Appoints New Trinidad & Tobago Distribution Partner
16 February 2009
Poseidon Buoys Now Stocked in USA
SUBSCRIBE
CATALOGUE
Sealite
+61 (0)3 5977 6126

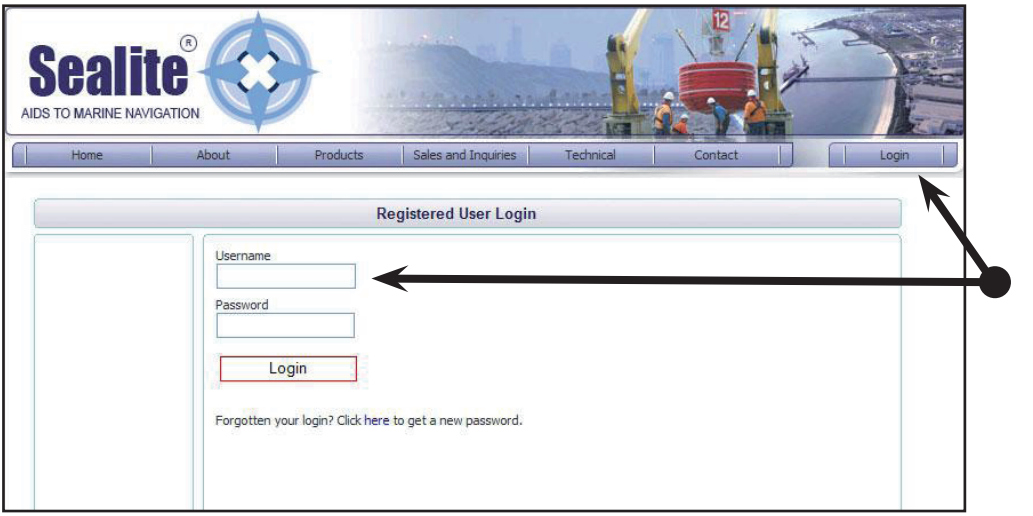
Successful submissions will display the message below.


Confirmation of Success
Your request for an on-line GSM account has been sent successfully.
Please check your email for your account details and further instructions.
If your account details do not arrive within 1 hour, please check your email junk folder.
If still no success, please do not re-submit the form. You will need to contact Sealite for assistance
Regards from the Sealite Team

3. Check your email account for confirmed secure login details.

From: info@sealite.com.au
To: Kathryn Paton
Cc:
Subject: Details of your new account login for Sealite Web site [Scanned]
This email contains login details for your new account at Sealite Web site This email is automatically generated - PLEASE DO NOT REPLY TO THIS EMAIL.
Your account details are as follows:
User Name: patonkat
Password: xKAaPqsQsY
To use your account, go to http://www.sealite.com.au/ and login via the link "Registered Users" at the top of the home page.
You will be able to change your password at this time or any time in the future if you wish

4. Go to **www.sealite.com** on the internet, click on “Login” at the top right of the home page, and complete your login details.

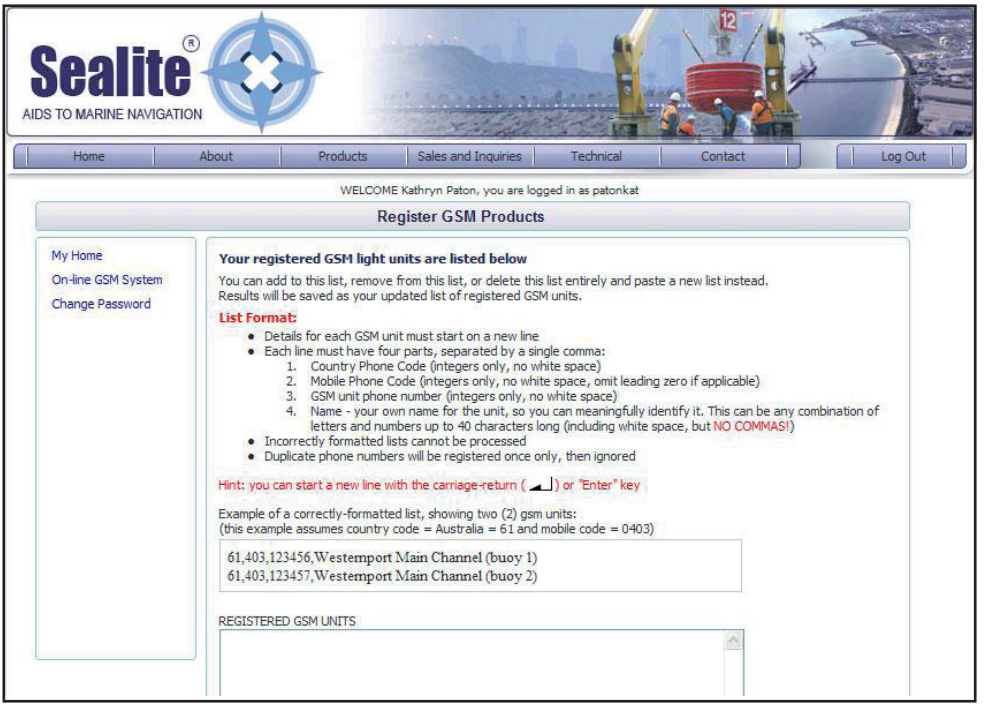


5. Once logged in, you will come to the “My Home” page. Click on **“Online GSM System”** in the menu bar at the left of the page to setup and access information about your WindTalker™ installations.

Sealite
AIDS TO MARINE NAVIGATION
Home
About
Products
Sales and Inquiries
Technical
Contact
Log Out
WELCOME Kathryn Paton, you are logged in as patonkat
My Home
My Home
On-line GSM System
Change Password
Your navigation options in this zone are set according to your User Profile.
Please use the Secure Zone navigation sub-menu at left.
Use the main navigation bar (above) to return to the Public Zone.
As long as you remain logged in, you will also be able to return to this Zone via the
"Secure Zone" link in the main navigation bar (check this, under main "Home" menu above).
If you believe that you are not able to access the appropriate menu,
or if you need to update your personal details such as your email address,
you should contact the Sealite Web Administrator here.

6. From the On-line GSM System page you can Register GSM Products and View GSM Data. To register new GSM products click on **"Register GSM Products"**.

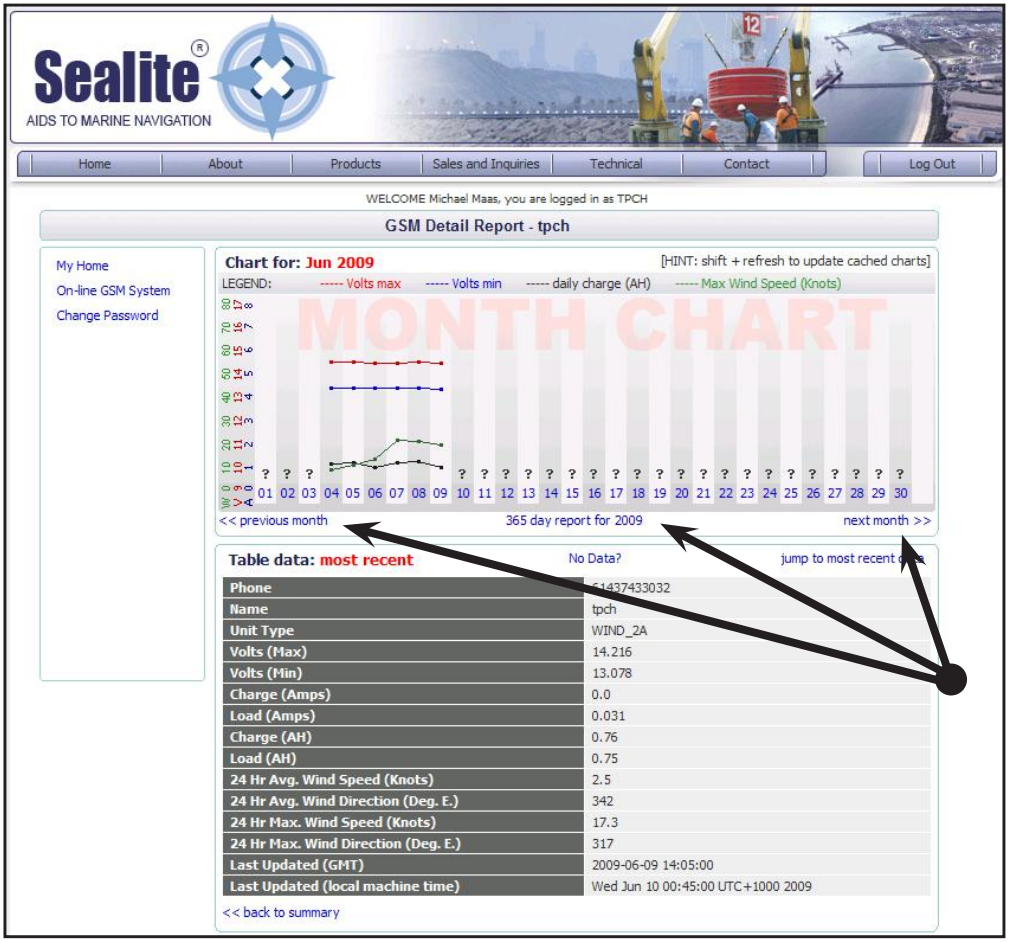
7. From the register GSM Products page, follow the instructions to log your new GSM installations into the web system.


Sealite
AIDS TO MARINE NAVIGATION
Home
About
Products
Sales and Inquiries
Technical
Contact
Log Out
WELCOME Kathryn Paton, you are logged in as patonkat
Register GSM Products
My Home
On-line GSM System
Change Password
Your registered GSM light units are listed below
You can add to this list, remove from this list, or delete this list entirely and paste a new list instead.
Results will be saved as your updated list of registered GSM units.
List Format:
Details for each GSM unit must start on a new line
Each line must have four parts, separated by a single comma:
1. Country Phone Code (integers only, no white space)
2. Mobile Phone Code (integers only, no white space, omit leading zero if applicable)
3. GSM unit phone number (integers only, no white space)
4. Name - your own name for the unit, so you can meaningfully identify it. This can be any combination of letters and numbers up to 40 characters long (including white space, but NO COMMAS!)
Incorrectly formatted lists cannot be processed
Duplicate phone numbers will be registered once only, then ignored
Hint: you can start a new line with the carriage-return ( ) or "Enter" key
Example of a correctly-formatted list, showing two (2) gsm units:
(this example assumes country code = Australia = 61 and mobile code = 0403)
61,403,123456,Westernport Main Channel (buoy 1)
61,403,123457,Westernport Main Channel (buoy 2)
REGISTERED GSM UNITS

8. After registering your WindTalker™ with Sealite's secure online web reporting system, data is available approximately 24 hours from the time the WindTalker™ is put into actual service or powered up. If the WindTalker™ is powered down or reset for any reason the 24hour time will also be reset.

   Click on "On-line GSM System" in the menu bar and then click on "View GSM Data". This will take you to a new page with a summary listing of all of your GSM lanterns and WindTalkers™ registered in the system. To view an individual unit diagnostic, click on the identity name/number.

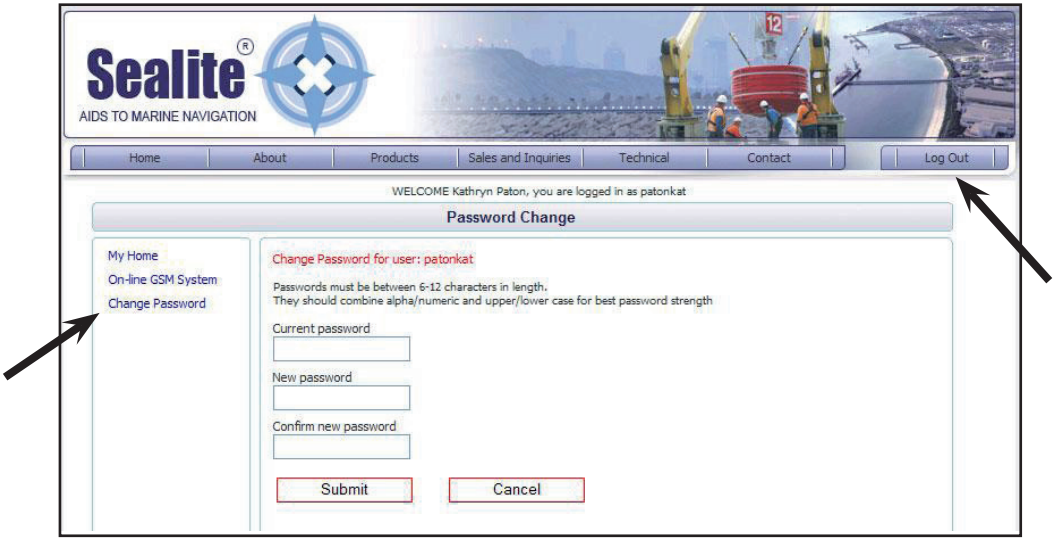
9. From the GSM Detail Report page the information as illustrated below, is available. Breaks in the data represent periodic absence of data transmission or removal of WindTalker™ for servicing.


Sealite
AIDS TO MARINE NAVIGATION
Home
About
Products
Sales and Inquiries
Technical
Contact
Log Out
WELCOME Michael Maas, you are logged in as TPCH
GSM Detail Report - tpch
My Home
On-line GSM System
Change Password
Chart for: Jun 2009
[HINT: shift + refresh to update cached charts]
LEGEND:
----- Volts max
----- Volts min
----- daily charge (AH)
----- Max Wind Speed (Knots)
MONTH CHART
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
<< previous month
365 day report for 2009
next month >>
Table data: most recent
No Data?
jump to most recent data
Phone 61437433032
Name tpch
Unit Type WIND_2A
Volts (Max) 14.216
Volts (Min) 13.078
Charge (Amps) 0.0
Load (Amps) 0.031
Charge (AH) 0.76
Load (AH) 0.75
24 Hr Avg. Wind Speed (Knots) 2.5
24 Hr Avg. Wind Direction (Deg. E.) 342
24 Hr Max. Wind Speed (Knots) 17.3
24 Hr Max. Wind Direction (Deg. E.) 317
Last Updated (GMT) 2009-06-09 14:05:00
Last Updated (local machine time) Wed Jun 10 00:45:00 UTC+1000 2009
<< back to summary

Further References:

- Click on a day of the month (dates located at the base of the chart) to view that particular dates data
- Click on the various links below the chart to view “Previous Month” or “Next Month” chart, or the “365 Day Report for the Year”

10. To change your password, click Change Password in the menu bar and complete the details.



REMEMBER TO LOG OUT WHEN YOU HAVE FINISHED VIEWING YOUR INSTALLATION DATA

(click "Log Out" at the top right of the page)

STEP 4: Program Desired Alarm Report List & Alarms

An alarm is an SMS text message which is sent after a preset alarm condition is programmed into the WindTalker™. Care should be taken when selecting suitable alarms as they can generate large numbers of SMS text messages if not carefully selected.

Alarm reports can only be created by cell phone numbers in the Access List. These alarm reports are sent to cell phone numbers in the Report List only.

Programming Report List

The following process will create a list of approved cell phone numbers from which desired alarm reports can be created;

Use a cell phone in the access list to create the report list by sending the SMS:-

add report +(country code)(phone number)

More than 1 cell phone number can be included in the SMS. To do this separate each number with a 'space' character.

- This creates an authorised list of cell phone numbers belonging to staff eg. on-call company maintenance officers or contractors.

A successful update will result in an SMS reply:-

Current report list: +(designated cell phone number)

The designated cell phone number has now been added to the 'report' list. The Sealite GMS module will now accept an SMS request for a wind 'report' from this number.

- The SMS message 'status' sent from on-call company maintenance officers or contactors in this list will now generate the standard report SMS reply from the WindTalker™.

A typical response SMS report message from a WindTalker™ will display as below:

Report Added
Current report list: +61400111222

Note: The actual layout of the message is dependent on your cell phone screen.

Creating Individual Alarms to be sent to the Alarm Report List

Specific alarms can be created and sent as an SMS text message to individual or contractor cell phones listed in the alarm report list.

The following process will enable desired alarms;

Use a cell phone in the access list to enable desired alarms by sending the SMS:-

add alarm (alarm parameter)

More than 1 alarm can be included in the SMS. To do this, separate each alarm parameter with a 'space' character.

- An example of an actual alarm SMS would be:

add alarm batlo

- This sets the low battery alarm. No cell phone number is required following the SMS

A successful update will result in an SMS reply:-

Alarm added
Current alarm list: (list of all alarms currently setup)

- A successful update of the above example would result in a reply SMS:

added alarm batlo current alarm list: batlo

A typical response SMS report message from a WindTalker™ when alarms are set up will display as below:

Alarm Added
Current alarm list: batlo, web, windhi

Note: The actual layout of the message is dependent on your cell phone screen.

Once an alarm condition has occurred an SMS will be sent reporting the alarm. Alarm conditions will continue to be reported once every 24 hours. This is to prevent constant reporting of the same alarm, multiple alarms or false alarms. The WindTalker™ can still be accessed by requesting a report via SMS.

Alarm Sources Summary

All of the following alarm conditions can be programmed via SMS to be either ENABLED or DISABLED.

If an alarm condition that has been enabled occurs, an SMS will be automatically sent to all the cell phone numbers listed in the report list.

Command	Parameter	Function	Enable Command Format	Disable Command Format
add alarm	**batlo**	Alarm SMS "batlo" is asserted when the battery voltage falls to a low level (flat battery). An alarm condition will be set if the system battery voltage falls below 10.5v indicating a flat battery.	**add alarm batlo**	**delete alarm batlo**
	temphi	Alarm SMS "temphi" is asserted when the PCB temperature rises above 70deg C.	**add alarm temphi**	**delete alarm temphi**
	nodata	Alarm SMS "nodata" is asserted when the GSM module loses communication with the anemometer circuitry.	**add alarm nodata**	**delete alarm nodata**
	windhi	Alarm SMS "windhi" is asserted when the anemometer detects a windspeed above the threshold. The threshold is set by the factory to 20 knots.	**add alarm windhi**	**delete alarm windhi**
Daily Reporting Alarms				
add alarm / add autoreport	**daily**	Enables a daily status report from the WindTalker™ to be sent to all cell phone numbers in the report list. This report occurs every 24 hours.	**add alarm daily** or/ **add autoreport status**	**delete alarm daily** or/ **delete autoreport daily**
	power	Enables a daily battery status report to be sent to all cell phone numbers in the report list. This report occurs every 24 hours.	**add alarm power** or/ **add autoreport battery**	**delete alarm power** or/ **delete autoreport battery**
	web	Enables a daily web report to be sent to all cell and / or web gateway numbers in the web list. This report occurs every 24 hours.	**add alarm web** or/ **add autoreport web**	**delete alarm web** or/ **delete autoreport web**

Accessing Your WindTalker™ Data

General data about the WindTalker™ is accessed via sending the SMS text message; 'report' from an authorized cell phone number (must be listed in the 'access' or 'report' list) to the WindTalker™ SIM card number.

An automatically generated reply SMS will be sent to your cell phone, which includes information about the status.

1. A typical requested SMS report message from a WindTalker™ will display as below;

Status Report
Volts: 14.16V
Charge: 0.331A
Battery OK
Temp OK
Wind OK
Gust(10min): 4.4 kts,226° SW
Avg(10min): 2.3 kts,101° E

Note: The actual layout of the message is dependent on your cell phone screen.

2. Specific battery data from your WindTalker™ is accessed via the SMS text message; 'battery'

A typical response SMS is

Power Report:
Battery: 14.2V
Charge: 0.240A
Load: 0.006A

Yesterday
Min: 14.1V
Max: 14.3V
Max Charge: 0.368A
Charge: 1.76Ah
Load: 0.56Ah

Note: The actual layout of the message is dependent on your cell phone screen.
Ah = Ampere Hours = current x time (24 hour running average).

3. Specific Wind data from your WindTalker™ is accessed via the SMS text message; 'wind'

A typical response SMS is

Wind Report:

Current:	**5.0 kts,10° N**
Avg(2min):	**4.5 kts,11° N**
Avg(10min):	**4.1 kts,13° N**
Gust(2min):	**6.1 kts,8° N**
Gust(10min):	**6.4 kts,9° N**

Note: The actual layout of the message is dependent on your cell phone screen.
Ah = Ampere Hours = current x time (24 hour running average).

Sending Commands

These SMS commands are used to access data and manipulate the functioning of your WindTalker™.

1. **ADD** – to add cell phone numbers to the 'access' or 'report' list, or to add 'alarm' conditions
2. **LIST** – to list the cell phone numbers in the 'access' or 'report' list, or to list the 'alarm' conditions
3. **DELETE** – to delete cell phone numbers in the 'access' or 'report' list, or to delete 'alarm' conditions
4. **GET** – to read the current value of a user-adjustable parameter
5. **SET** – to set a new value for a user-adjustable parameter

The "add" Command

The "add" command allows;

- Cell phone numbers to be added to the 'access', 'report' and 'web' lists and;
- Required alarms and autoreports to be enabled.

Full cell phone numbers including '+' and country code must be used when adding cell phone numbers to the 'access', 'report' & 'web' lists.

To add the cell phone number 0402123456 to the 'report' list the following command would be sent in an SMS from any cell phone number listed in the access list:

"add report +61402123456"

A successful update would result in an SMS reply:

"Report added
Current report list: +61402123456"

To add an alarm trigger to the cell phone number 0402123456 the following command would be sent in an SMS from an authorised cell phone:

"add alarm batlo"

A successful update would result in an SMS reply:

"Alarm added
Current alarm list: nodata, nogps, nopps, batlo"

Command	Parameter	Function	Example Command Format
add	**access**	Adds additional cell phone number(s) to the permitted access list. More than one cell phone number can be included in the SMS by separating each number with a "space" character. The same cell phone number may also be programmed into the "report" list.	**add access +61402123456** or/ **add access +61402123456 +61402654321**
	report	Adds additional cell phone number(s) to the permitted report list. More than one cell phone number can be included in the SMS by separating each number with a "space" character. The same cell phone number may also be programmed into the "access" list.	**add report +61402123456** or/ **add report +61402123456 +61402654321**
	web	Adds additional cell phone / web gateway number(s) to the permitted web report list. More than one number can be included in the SMS by separating each number with a "space" character.	**add web +61416905938** *the above number must be used to access the Sealite Gateway*
	alarm / autoreport	Adds the required alarm or autoreport functions that will report to the cell phones in the report list. More than one alarm can be included in the SMS. Separate each alarm condition with a "space" character. Possible alarms are: **batlo, temphi, windhi, nodata, daily, web, power,** Possible autoreports are: **status, daily, battery, power, web**	**add alarm batlo** or/ **add alarm batlo windhi** or/ **add autoreport status**

All telephone numbers must be presented in international format – ie/ In Australia '0402123456' becomes '+61402123456'. In the United Kingdom, '07791234567' becomes '+447791234567'.

The "list" Command

The "list" command allows the operator to view:

- Cell phone numbers listed in the 'access', 'report' and 'web' lists and;
- List enabled alarms and autoreports programmed into the lantern.

To determine the cell phone number entries in the 'report' list the following SMS command would be sent:

"list report"

The WindTalker™ would SMS a response containing the contents of this list:

"current report list: +61402123456, +61402654321"

To determine the 'alarm' list the following SMS command would be sent:

"list alarm"

The WindTalker™ would SMS a response containing the contents of this list:

"current alarm list: nodata, temphi, nogps, nopps, batlo"

Command	Parameter	Function	Example Command Format
list	**access**	Requests a list of the current cell phone numbers in the access list. An SMS is returned showing the current access list.	**list access**
	report	Requests a list of the current cell phone numbers in the report list. An SMS is returned showing the current report list.	**list report**
	web	Requests a list of the current cell phone / web gateway numbers in the report list. An SMS is returned showing the current report list.	**list web**
	alarm / autoreport	Requests a list of the current alarms or autoreports programmed into the alarm list. An SMS is returned showing the current alarm list.	**list alarm** or/ **list autoreport**

All telephone numbers must be presented in international format – ie/ In Australia '0402123456' becomes '+61402123456'. In the United Kingdom, '07791234567' becomes '+447791234567'.

The "delete" Command

The "delete" command operates in the same way as the "add" command. The difference is the "delete" command will also accept the keyword "all". This allows the list to be cleared in a single SMS.

To remove the cell phone number 0402123456 from the report list the following command would be sent:

"delete report +61402123456"

A successful deletion would result in an SMS reply:

"Report deleted
Current report list: Empty"

When the report list is "empty", this means that there are no cell phone numbers in the 'report' list, therefore disabling the automatic alarm function.

To remove an alarm from the alarm list the following command would be sent:

"delete alarm batlo"

A successful deletion would result in an SMS reply:

"Alarm deleted
Current alarm list: nodata, temphi, nogps, nopps"

Command	Parameter	Function	Example Command Format
delete	access	Deletes the requested cell phone number from the permitted access list.	delete access +61402123456
	report	Deletes the requested cell phone number from the permitted report list.	delete report +61402123456
	web	Deletes the requested cell phone number from the permitted web list.	delete web +61416905938
	alarm / autoreport	Deletes the requested alarm or autoreport from the current alarm list.	delete alarm batlo

The "get" Command

Command	Parameter	Function	Example Command Format
get	windspeed	Gets the current wind speed threshold. This threshold is used to determine when the 'windhi' alarm is triggered.	get windspeed

The "set" Command

Command	Parameter	Function	Example Command Format
set	**windspeed**	Sets the current wind speed threshold. This threshold is used to determine when the 'windhi' alarm is triggered. This value can be set to any number between 1 and 100 knots.	**set windspeed 30** This sets the wind speed to 30 knots

WindTalker™ Installation Location

The WindTalker™ must be installed in a location where there is adequate GSM signal coverage from your service provider.

Data will not be available from the WindTalker™ for a minimum of 1 minute after the power has been connected.

DESIGNATED WINDTALKER™ SIM CARD NUMBERS

WindTalker™ Name (eg. Dock #2)	Installation Location	Cell Phone Number (eg. +61432123456)	Master Cell Phone Number (eg. +61456123456)

REMOTE ACCESS CELL PHONE NUMBERS (configuration commands & report requests)

WindTalker™ Name	Contact Name	Cell phone Number (eg. +61432123456)

REMOTE REPORT CELL PHONE NUMBERS (receive alarm messages)

WindTalker™ Name	Contact Name	Cell phone Number (eg. +61432123456)

Trouble Shooting

Initial Setup

The most important step in the process of setting up your GSM monitoring module is to ensure desired cell phone numbers are programmed into the access list.

Use the list access command (see “Sending Commands” on page 20) to confirm cell phone numbers are correctly entered. Re-enter from a correctly listed cell phone the numbers required.

If the initial access list number(s) are incorrectly entered, lost, or if the lantern’s cell phone number will not respond, power up the lantern and email Sealite technicians (support@sealite.com) the following details:

- Designated WindTalker™ SIM Card Number
- Country Code
- WindTalker™ Serial Number **

*** Please Note: A charge may be levied for this service*

Web Reporting

If no data is available from your secure web login after following the outlined procedure:

- Send the SMS text message “list alarm” to check that the alarm to the web is enabled
- If the alarm has not been enabled, then re-send the SMS text message “add alarm web” to the WindTalker™. Also ensure the gateway phone number +61416905938 is open

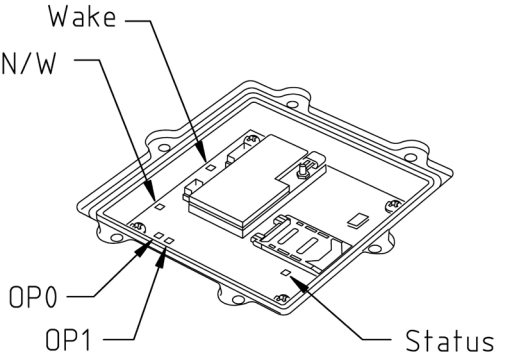
Trouble Shooting Table

Problem	Remedy
WindTalker™ will not activate.	• Ensure the battery is connected to the GSM module. • Wait at least 60 seconds for the program to initialise. • Ensure battery terminals are properly connected. • Ensure battery voltage is above 12volts. • Inspect the Indicator / Status LED's on the GSM Module. See p26 for more details.
WindTalker™ will not operate for the entire night.	• Expose WindTalker™ to direct sunlight and monitor operation for several days. Sealite products typically require 3 hours of direct sunlight per day to retain full autonomy. • Ensure solar module is clean and not covered by shading during the day.
WindTalker™ won't respond to the 1st message I send on setup.	• Ensure SIM card is active, has credit, and is fitted correctly. • Ensure there is no PASSWORD on the SIM card account and the SIM Card is unlocked.
My SMS reports are sometimes showing N/A or reports that "no data" has been received.	• This indicates that the data from the anemometer is not available. Contact Sealite for further help.
When I send an SMS there is no SMS response from the lantern within 5-10 minutes.	• The cell phone monitoring system is reliant on cell phone coverage and gateway traffic, and may suffer from occasional drop outs, from occasional drop outs, or the lantern may be located in a marginal GSM coverage area (check with your local network provider for coverage details). One or all of these parameters affect the performance of your monitoring system.
When I send an SMS there is no response	• Check the number you are ringing from is listed in the access list or the report list. • Try sending the SMS from a different phone using a different network.

PHONE MODULE INDICATOR / STATUS LED's

The GSM board is fitted with a number of Indicator LED's. Use the diagram below to help determine operational status.

To view Indicator LED's follow the steps shown on in the "Initial Setup and Installing the SIM Card" section of this manual



Indicator LED	Indicator LED states *(Blank spaces indicate LED will not have this state)*			
	Slow Flash	Quick Flash	Steady On	No Flash
Wake	Module is awake and active			
N/W (Network)	Network signal is OK to excellent	Network signal is fair to OK		Network signal strength is not sufficient.
OP 0	Battery and Temperature are good	Low Battery	Battery is OK but the temperature is high	
OP 1	Anemometer data	Anemometer data		No Anemometer data
STATUS	SIM Card is OK, this does not mean the card has credit.		SIM Card is not inserted or is bad.	

Sealite LED Light Warranty V2.0

Activating the Warranty

Upon purchase, the Sealite Pty Ltd warranty must be activated for recognition of future claims. To do this you have two (2) options:

1. **Postal Registration** - please complete the Sealite Warranty Registration Card and return to Sealite within 30 days of your purchase.
2. **Online Registration** - please complete the Online Registration Form at; www.sealite.com

Sealite Pty Ltd will repair or replace your LED light in the event of electronic failure for a period of up to three years from the date of purchase.

The unit must be returned to Sealite freight prepaid.

Warranty Terms

1. Sealite Pty Ltd warrants that any Sealite marine products fitted with telemetry equipment including but not limited to AIS, GSM, GPS or RF ("Telemetry Products") will be free from defective materials and workmanship under normal and intended use, subject to the conditions hereinafter set forth, for a period of twelve (12) months from the date of purchase by the original purchaser.
2. Sealite Pty Ltd warrants that any BargeSafe™ Series of LED barge light products ("BargeSafe™ Products") will be free from defective materials and workmanship under normal and intended use, subject to the conditions hereinafter set forth, for a period of twelve (12) months from the date of purchase by the original purchaser.
3. Sealite Pty Ltd warrants that any LED area lighting products ("Area Lighting Products") but not including sign lighting products will be free from defective materials and workmanship under normal and intended use, subject to the conditions hereinafter set forth, for a period of twelve (12) months from the date of purchase by the original purchaser.
4. Sealite Pty Ltd warrants that any LED sign lighting products ("Sign Lighting Products") will be free from defective materials and workmanship under normal and intended use, subject to the conditions hereinafter set forth, for a period of three (3) years from the date of purchase by the original purchaser.
5. Sealite Pty Ltd warrants that any Sealite marine lighting products other than the Telemetry Products, BargeSafe™ Products, and Area Lighting Products ("Sealite Products") will be free from defective materials and workmanship under normal and intended use, subject to the conditions hereinafter set forth, for a period of three (3) years from the date of purchase by the original purchaser.
6. Sealite Pty Ltd will repair or replace, at Sealite's sole discretion, any Telemetry Products, BargeSafe™ Products, Area Lighting Products or Sealite Products found to be defective in material and workmanship in the relevant warranty period so long as the Warranty Conditions (set out below) are satisfied.
7. If any Telemetry Products, BargeSafe™ Products, Area Lighting Products or Sealite Products are fitted with a rechargeable battery, Sealite Pty Ltd warrants the battery will be free from defect for a period of one (1) year when used within original manufacturer's specifications and instructions.

Warranty Conditions

This Warranty is subject to the following conditions and limitations;

1. The warranty is applicable to lanterns manufactured from 1/1/2009.
2. The warranty is void and inapplicable if:
   a. the product has been used or handled other than in accordance with the instructions in the owner's manual and any other information or instructions provided to the customer by Sealite;
   b. the product has been deliberately abused, or misused, damaged by accident or neglect or in being transported; or
   c. the defect is due to the product being repaired or tampered with by anyone other than Sealite or authorised Sealite repair personnel.

3. The customer must give Sealite Pty Ltd notice of any defect with the product within 30 days of the customer becoming aware of the defect.
4. Rechargeable batteries have a limited number of charge cycles and may eventually need to be replaced. Typical battery replacement period is 3-4 years. Long term exposure to high temperatures will shorten the battery life. Batteries used or stored in a manner inconsistent with the manufacturer's specifications and instructions shall not be covered by this warranty.
5. No modifications to the original specifications determined by Sealite shall be made without written approval of Sealite Pty Ltd.
6. Sealite lights can be fitted with 3rd party power supplies and accessories but are covered by the 3rd party warranty terms and conditions.
7. The product must be packed and returned to Sealite Pty Ltd by the customer at his or her sole expense. Sealite Pty Ltd will pay return freight of its choice. A returned product must be accompanied by a written description of the defect and a photocopy of the original purchase receipt. This receipt must clearly list model and serial number, the date of purchase, the name and address of the purchaser and authorised dealer and the price paid by the purchaser. On receipt of the product, Sealite Pty Ltd will assess the product and advise the customer as to whether the claimed defect is covered by this warranty.
8. Sealite Pty Ltd reserves the right to modify the design of any product without obligation to purchasers of previously manufactured products and to change the prices or specifications of any product without notice or obligation to any person.
9. Input voltage shall not exceed those recommended for the product.
10. Warranty does not cover damage caused by the incorrect replacement of battery in solar lantern models.
11. This warranty does not cover any damage or defect caused to any product as a result of water flooding or any other acts of nature.

Limitation of Liability

To the extent permitted by section 68A of the Trade Practices Act 1974 (Cth), the liability of Sealite Pty Ltd under this Warranty will be, at the option of Sealite Pty Ltd, limited to either the replacement or repair of any defective product covered by this Warranty.
Limited to Original Purchaser
This Warranty is for the sole benefit of the original purchaser of the covered product and shall not extend to any subsequent purchaser of the product.

Miscellaneous

Apart from the specific warranties provided under this warranty, all other express or implied warranties relating to the above product is hereby excluded to the fullest extent allowable under law. The warranty does not extend to any lost profits, loss of good will or any indirect, incidental or consequential costs or damages or losses incurred by the purchaser as a result of any defect with the covered product.

Warrantor

Sealite Pty Ltd has authorised distribution in many countries of the world. In each country, the authorised importing distributor has accepted the responsibility for warranty of products sold by distributor. Warranty service should normally be obtained from the importing distributor from whom you purchased your product. In the event of service required beyond the capability of the importer, Sealite Pty Ltd will fulfil the conditions of the warranty. Such product must be returned at the owner's expense to the Sealite Pty Ltd factory, together with a photocopy of the bill of sale for that product, a detailed description of the problem, and any information necessary for return shipment.

Information in this manual is subject to change without notice and does not represent a commitment on the part of the vendor.
Sealite products are subject to certain Australian and worldwide patent applications.

Other Sealite Products Available

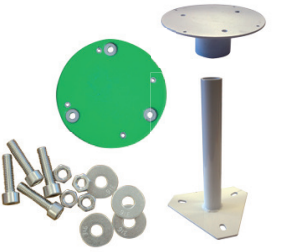
Marine Lanterns
(1-12nm+)

Monitoring
& Control Systems

Bridge & Barge Lights

Marine Buoys
(up to 3mt in diameter)

Area Lighting



Mooring Systems
& Accessories

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